

Amendments to the Claims:

Please amend claims 1 to 5, 7 to 22 and 24 and add claims 26 to 29 as set forth hereinafter.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Container ~~(20, 30)~~ for receiving an aqueous solution, and in particular cells, derivatives of cells, subcellular particles and/or vesicles, which is formed at least partially by an outer limit ~~(21)~~ forming which forms an inner chamber ~~(22, 32)~~ for receiving said solution, and which comprises at least one area which acts as an electrode ~~(25, 26, 33, 34)~~ when an electric voltage is applied and a subsequent discharge occurs, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of a conductive synthetic material which is, or is at least based on, a plastic material which is doped with at least one conductive substance, and wherein the overall concentration of said dope in said plastic material is 40 – 80 % w/w.
2. (currently amended) Container according to claim 1, wherein said dope consists essentially of carbon fibers, graphite, soot and/or carbon nanotubes.

3. (currently amended) Container according to claim 1 ~~or~~ 2, wherein the overall concentration of said dope in said plastic material is 40 – 60 % w/w, preferably 50 – 60 % w/w, in particular 55 – 60 % w/w.
4. (currently amended) Container according to claim 1 ~~or~~ 2, wherein the overall concentration of said dope in said plastic material is 50 – 80 % w/w, preferably 60 – 80 % w/w, most preferred 70 – 80 % w/w, in particular 74 – 76 % w/w.
5. (currently amended) Container according to ~~any one of the claims 1 to 4~~ claim 1, wherein said plastic material is  
polycarbonate, polyetheretherketone, polypropylene, polyamide, polyphenylensulfide or  
a mixture of these polymers, or at least based on one or several of these polymers, and/or  
wherein said plastic material is an intrinsically conductive synthetic material.
6. (currently amended) Container according claim 5, wherein said intrinsically conductive synthetic material is  
polyaniline, polyacetylene, poly-para-phenylene, poly-para-phenylensulfide, polypyrroles, polythiophene, polypropylene ~~or the like~~, or  
at least based on one or several of these polymers.
7. (currently amended) Container according to ~~any one of the claims 1 to 6~~ claim 1, wherein said outer limit ~~(21, 31)~~ is made of synthetic material, ~~preferably transparent plastic material~~.

8. (currently amended) Container according to claim 7, wherein said ~~outer limit (21, 31) is made of~~ synthetic material is the same plastic material as the plastic material on which said at least one electrode ~~(25, 26, 33, 34)~~ is based.
9. (currently amended) Container according to ~~any one of the claims 1 to 8~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is integrated into said outer limit ~~(21, 31)~~.
10. (currently amended) Container according to ~~any one of the claims 1 to 9~~ claim 1 comprising at least two electrodes ~~(25, 26, 33, 34)~~ being made of the same material.
11. (currently amended) Container according to ~~any one of the claims 1 to 10~~ claim 1 comprising at least two electrodes, wherein said at least two electrodes ~~(25, 26, 33, 34)~~ are made of different materials.
12. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polyamide, in particular polyamide 66 or polyamide 6, doped with 25 - 45 % w/w, preferably 30 - 40 % w/w, in particular 33 - 37 % w/w, carbon fibers and 15 - 35 % w/w, preferably 20 - 30 % w/w, in particular 23 - 27 % w/w, graphite.
13. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polyamide, in particular polyamide 66 or polyamide 6, doped with 30 - 50 % w/w, preferably 35 - 45 % w/w, in particular 39 - 41 % w/w, carbon fibers and 25 - 45 % w/w, preferably 30 - 40 % w/w, in particular 34 - 36 % w/w, graphite.

14. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polycarbonate doped with 15 - 40 % w/w carbon fibers and 1 - 40 % w/w graphite.
15. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polyetheretherketone doped with 40 - 50 % w/w carbon fibers.
16. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polyamide, preferably polyamide 66, doped with 40 % w/w carbon fibers.
17. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polypropylene doped with 40 % w/w carbon fibers.
18. (currently amended) Container according to ~~any one of the claims 1 to 11~~ claim 1, wherein said at least one electrode ~~(25, 26, 33, 34)~~ is made of polyphenylensulfide doped with 40 - 50 % w/w carbon fibers.
19. (currently amended) Container according to ~~any one of the claims 1 to 18~~ claim 1, wherein said outer limit ~~(21, 31)~~ comprises at least one opening for supplying said solution and at least one opening for draining off said solution.

20. (currently amended) Container arrangement comprising at least two, preferably 6, 12, 24, 48, 96 or more, containers ~~(20, 30)~~ according to ~~any one of the claims 1 to 18~~ claim 1 being joined to build one unit.
21. (currently amended) Method for ~~production of~~ producing containers or container arrangements according to ~~any one of the claims 1 to 20~~ claim 1, wherein said container ~~(20, 30)~~ or said container arrangement is produced by two-component injection moulding, wherein comprising:
- (a) at first injection-moulding the outer limit ~~(21, 31)~~ is injection-moulded leaving so as to leave one recessed window, and
- (b) subsequently injection-moulding the conductive synthetic material being made of doped plastic is ~~subsequently injection-moulded~~ into said at least one window, or wherein alternatively,
- (a) at first injection-moulding said at least one electrode ~~(25, 26, 33, 34)~~ is ~~injection-moulded of from~~ said doped plastic material, and
- (b) subsequently injection-moulding said outer limit ~~(21, 31)~~ is ~~subsequently injection-moulded~~ around said at least one electrode ~~(25, 26, 33, 34)~~.
22. (currently amended) Method for treatment of cells, derivatives of cells, subcellular particles and/or vesicles by means of electric current, ~~in particular for electroporation or electrofusion~~, comprising:
- a) ~~Transferring~~ transferring said cells, derivatives of cells, subcellular particles and/or vesicles into an inner chamber ~~(22, 32)~~ of at least one container ~~(20, 30)~~ according to claim 1 comprising ~~any one of the claims 1 to 19 or at least one container of a container arrangement according to claim 20~~, wherein said container ~~(20, 30)~~ comprises at least one electrode ~~(25, 26, 33, 34)~~ being made of

- a ~~doped synthetic material~~, and at least one further electrode ~~(25, 26, 33, 34)~~, and
- b.) Applying applying voltage to said electrodes ~~(25, 26, 33, 34)~~ and generating a current flow in said inner chamber ~~(22, 32)~~ of said container ~~(20, 30)~~.
23. (previously presented) Method according to claim 22, wherein said electric current reaches a current density up to  $120 \text{ A/cm}^2$ , preferably  $80 \text{ A/cm}^2$ .
24. (currently amended) Method according to claim 22 ~~or 23~~, wherein biologically active molecules, ~~in particular nucleic acids~~, are solved in said solution, and transfer of said biologically active molecules into living cells is achieved ~~by means of~~ via a voltage pulse having a field strength of  $2$  to  $10 \text{ kV*cm}^{-1}$  and a duration of  $10$  to  $200 \text{ }\mu\text{s}$ .
25. (previously presented) Method according to claim 24, wherein said transfer of said biologically active molecules into said cells is achieved by a current flow following said voltage pulse without interruption, having a current density of  $2$  to  $14 \text{ A*cm}^{-2}$ , preferably  $5 \text{ A*cm}^{-2}$ , and a duration of  $1$  to  $100 \text{ ms}$ , preferably  $50 \text{ ms}$ .
26. (new) Container according to claim 1, wherein said aqueous solution comprises cells, derivatives of cells, subcellular particles and/or vesicles.
27. (new) Container according to claim 7, wherein said synthetic material is a transparent plastic material.
28. (new) Method according to claim 22, wherein said cells, subcellular particles and or vesicles are transferred into inner chambers of at least two containers.

29. (new) Method according to claim 24, wherein said biologically active molecules are nucleic acids.